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47. (new) A heat sink adapted for cooling at least one heat generating component, said heat sink being adapted to operate in association with at least one air moving means so as to generate airflow therethrough and remove the generated heat thereby, said heat sink comprising:

at least one heat conducting element adapted to be in thermal contact with the heat generating component, said one heat conducting element also being in thermal contact with a plurality of fins having through fin-perforations defining free airflow passages therethrough and heat paths therebetween so as to spread the generated heat through said perforated fins, said plurality of perforated fins having a structural configuration and relative spatial disposition so as to form airflow directing means for the generated airflow,

at least one air inlet having associated therewith at least one inflow air passage for inflowing air, and

at least one air outlet having associated therewith at least one outflow air passage for outflowing air, said inflow and outflow air passages being in fluid communication via said fin-perforations,

such that when the air moving means is operative to generate the airflow into said at least one inflow air passage, said airflow directing means at least partially

blocks the generated airflow so as to direct substantially all of the generated airflow flowing within said at least one inflow air passage to flow therefrom into said at least one outflow air passage via each of said fin-perforations, thereby developing cross-flow only once through each of said fin-perforations so as to exit via said at least one air outlet.

48. (new) The heat sink of claim 47 wherein at least a portion of said perforated fins are arranged obliquely relative to a respective portion of proximate ones of said perforated fins.

49. (new) The heat sink of claim 48 wherein said perforated fins are arranged oblique to one another in accordion-like fashion, said perforated fins having edges, a portion of said edges being spaced apart, and another portion of said edges being joined, said spaced apart edges defining sides having airflow blocking means disposed at least on a portion thereof, proximate pairs of said joined edges defining therebetween said air outlet on one side of the heat sink and said air inlet on the other side thereof.

50. (new) The heat sink of claim 47 wherein said fin-perforations have associated therewith fin-protrusions, providing additional airflow directing means, said fin-protrusions extending from said perforated fins into at least said inflow air passages so as to direct a portion of the generated airflow toward the associated fin-perforations.

51. (new) The heat sink of claim 47 wherein said perforated fins have edges, at least a portion of said edges being spaced apart, said spaced apart edges defining sides each having a perforated cover disposed thereon, so as to form fluid communication between said at least one inflow and said at least one outflow air passages and the ambient

air external to the heat sink, with at least a portion of said cover-perforations having associated therewith cover-protrusions, said cover-protrusions extending into at least a portion of said inflow and outflow air passages so as to force at least a portion of the generated airflow to be exhausted therefrom through a portion of said cover-perforations into the ambient air external to the heat sink, while another portion of said cover-perforations admits ambient air into the heat sink

52. (new) The heat sink of claim 48 wherein said perforated fins are arranged oblique to one another in accordion-like fashion, said perforated fins having edges, a portion of said edges being spaced apart, and another portion of said edges being joined, said spaced apart edges defining sides each having a perforated cover disposed thereon, proximate pairs of said joined edges defining said at least one air outlet and said at least one air inlet therebetween, so as to form fluid communication between said at least one inflow and said at least one outflow air passage and the ambient air external to the heat sink, with at least a portion of said cover-perforations having associated therewith cover-protrusions, said cover-protrusions extending into at least a portion of said inflow and outflow air passages so as to force at least a portion of the generated airflow to be exhausted therefrom through a portion of said cover-perforations into the ambient air external to the heat sink, while another portion of said cover-perforations admits ambient air into the heat sink

53. (new) The heat sink of claim 47 having a symmetrical configuration in which said at least one air inlet and said at least one air outlet are interchangeable in accordance with the flow direction of the generated airflow.

54. (new) The heat sink of claim 47 wherein said plurality of perforated fins are arranged in a stacked

fashion, such as to substantially align said at least one inflow air passages and said at least one outflow air passage.

55. (new) The heat sink of claim 54 wherein said substantially aligned at least one inflow air passage is merged with the respective at least one outflow air passage into a continuous air passage.

56. (new) The heat sink of claim 47 wherein said fin-perforations are configured and disposed on the corresponding fins in accordance with at least one of the groups comprising:

a) fin-perforations wherein the cumulative free-airflow area thereof is in a ratio smaller than 30% in respect to the aggregate surface area of the corresponding fin element;

b) fin-perforations wherein the free-airflow area provided by each and every singular fin thereof is smaller than 12 mm^2 ;

c) fin-perforations wherein the cumulative free-airflow area thereof is larger than the area of said corresponding air inlet;

d) fin-perforations wherein the cumulative free-airflow area thereof is larger than the area of said corresponding air outlet;

e) fin-perforations wherein the cumulative free-airflow area thereof on a particular fin is different than the cumulative free-airflow area thereof on an adjacent fin;

f) fin-perforations disposed so as to form non-perforated continuous heat spreading paths each having a radial component ;

g) fin-perforations at least a portion thereof having free-airflow area being non-uniformly sized;.

h) fin-perforations at least a portion of the walls thereof being inclined oriented in respect to the surface of the respective fin;

i) fin-perforations at least a portion of the walls thereof being inclined oriented in respect to the direction of said inflowing air;

j) fin-perforations disposed in staggered fashion in respect to adjacent ones thereof at least in the direction of the generated air flow;

k) fin-perforations at least a portion of the walls thereof being non-uniformly oriented in respect to the walls of adjacent fin perforations;

l) fin-perforations at least a portion thereof being non-uniformly shaped; and

m) fin-perforations at least a portion thereof being non-uniformly spaced apart so as to form therebetween non-uniformly sized bars.

57. (new) The heat sink of claim 56 wherein said fin-perforations have associated therewith fin-protrusions being configured and disposed on the corresponding fins in accordance with at least one of the groups comprising:

a) fin-perforations and associated fin-protrusions having at least a portion of the walls and surface thereof inclined oriented in respect to the surface of the respective fin;

b) fin-perforations and associated fin-protrusions having at least a portion of the walls and surface thereof inclined oriented in respect to the generated airflow direction;

c) fin-perforations and associated fin-protrusions at least a portion of the walls and surface thereof defining a continuous surface;

d) fin-perforations wherein at least a portion of the associated fin-protrusions are non-uniformly sized;

e) fin-perforations wherein at least a portion of the associated fin-protrusions are non-uniformly shaped; and

h) fin-perforations wherein at least a portion of the associated fin-protrusions are none uniformly oriented.

58. (new) The heat sink of claim 51 wherein said cover-perforations have associated therewith cover-protrusions being configured and disposed in accordance with at least one of the groups comprising:

a) cover-perforations and associated cover-protrusions being disposed in staggered fashion in the direction of the generated airflow;

b) cover-perforations and associated cover-protrusions having at least a portion of the walls and surface thereof inclined oriented in respect to the surface of the respective cover;

c) cover-perforations and associated cover-protrusions at least a portion of the walls and surface thereof defining a continuous surface;

d) cover-perforations and associated cover-protrusions at least a portion thereof being non-uniformly sized;

e) cover-perforations and associated cover-protrusions at least a portion thereof being non-uniformly shaped;

f) cover-perforations and associated cover-protrusions at least a portion thereof being non-uniformly spaced apart; and

j) cover-perforations and associated cover-protrusions at least a portion thereof being non-uniformly oriented.

59. (new) The heat sink of claim 47 wherein said at least one heat conducting element has a peripheral envelope with said perforated fins surrounding said envelope.

60. (new) The heat sink of claim 47 wherein at least a portion of said perforated fins surface is obliquely disposed in respect to said heat conducting element.

61. (new) The heat sink of claim 47 specifically structured in adaptation to a specific type of air moving means and to a specific relative disposition thereof, so as to characterize the generated airflow in accordance with

characteristics selected from at least one of the groups comprising :

a) the air exhausted from said at least one air outlet has substantially uniform temperature;

b) the air exhausted from said at least one air outlet has substantially uniform velocity ;

c) the air pressure drop across the heat sink is substantially the minimal; and

d) the rate of heat dissipation by the generated airflow is substantially the maximal.

62. (new) The heat sink of claim 49 wherein at least a portion of said perforated fins are provided as folded sections of a folded perforated strip.

63. (new) The heat sink of claim 51 wherein at least a portion of said covers is spaced apart from each of the respective sides with at least a portion of said cover-protrusions extending into the space formed between said covers and said sides.

64. (new) The heat sink of claim 52 wherein at least a portion of said covers is spaced apart from each of the respective sides with at least a portion of said cover-protrusions extending into the space formed between said covers and said sides.

65. (new) The heat sink of claim 49 wherein said airflow blocking means is a cover, at least a portion of the surface of said cover being thermally attached to at least a portion of said fin edges and another portion of said cover surface is adapted to form thermal contact with said heat generating component so as to adapt said cover to function also as the heat conducting element.

66. (new) The heat sink of claim 49 wherein said heat conducting element is configured as a base plate having one

side being in thermal contact with a portion of said joined edges, with the oppositely-facing joined edges defining between proximate pairs thereof said at least one air inlet, with said airflow blocking means partially covering said sides so as to define said at least one air outlet through the unblocked portion of said sides.

67. (new) The heat sink of claim 47 wherein the air moving means is connected thereto, the air moving means having its motor connected to a blade-supporting impeller so as to generate said airflow when the motor is activated and to form a self-contained cooling device.

68. (new) The heat sink of claim 67 wherein said motorized air moving means is a radial blower comprising a through-slotted radial impeller, wherein said impeller peripherally supports radial blades so as to externally and radially define between said radial blades a surrounded space in fluid contact with the ambient air at least through said slotted impeller,

said space being adapted to completely house at least said fins so as to direct the generated airflow at least through said slotted impeller into said inflow air passages.

69. (new) The heat sink of claim 68 wherein said heat conducting element is formed with an annular shape provided with an internal hollow section formed therein, said internal hollow section wholly encompassing said motor, with said fins radially protruding from said heat conducting element so as to become wholly disposed within said surrounded space,

wherein said heat conducting element further comprises means so as to reduce the resistance to tangential heat flow there-through.

70. (new) The cooling device of claim 67 wherein said fin-perforations are bordered by bars, said bars having their structure and relative disposition selected from at least one of the groups comprising:

a) bars obliquely oriented in respect to the projection of said blades thereon;

b) bars having a cross section sized as to provide uniform heat flux therethrough; and

c) bars having a heat path direction therethrough containing a radial component.

71. (new) The heat sink of claim 50 wherein said fin-perforations are disposed on said fin protrusions.

72. (new) The heat sink of claim 51 wherein said cover-perforations are disposed on said cover protrusions.

73. (new) The heat sink of claim 47 wherein said perforated-fins are heat conducting sheets selected from at least one of the groups comprising:

a) planar formed sheets;

b) spatial formed sheets;

c) piece-wise planar formed sheets;

d) piece-wise spatial formed sheets; and

e) piece-wise planar and piece-wise spatial formed sheets.

74. (new) The heat sink of claim 73 comprising at least one stack projecting from said at least one heat conducting element.

75. (new) A method for cooling at least one heat generating component, said method comprising:

providing a heat sink being adapted to operate in association with at least one air moving means;

providing at least one heat conducting element adapted to be in thermal contact with the heat generating component, said one heat conducting element also being in

thermal contact with a plurality of fins having through fin-perforations defining a free airflow passages therethrough and heat paths therebetween so as to spread the generated heat through said perforated fins, said plurality of perforated fins having a structural configuration and relative spatial disposition;

providing at least one air inlet having associated therewith at least one inflow air passage for inflowing air, and

providing at least one air outlet having associated therewith at least one outflow air passage for out flowing air, said inflow and outflow air passages being in fluid communication via said fin-perforations,

such that when the air moving means is operated, airflow is generated therethrough and the generated heat is removed thereby,

said perforated fins forming airflow directing means for the generated airflow.